

1 Write a program to find the Greatest Common Divisor (GCD) of two numbers using a while loop.

Input: 12 18

Output: 6

Input: 7 13

Output: 1

2 Check whether a number is a perfect number using a while loop.

A perfect number is a positive integer that equals the sum of its proper positive divisors (all divisors excluding the number itself). For example, 6 is perfect because its proper divisors (1, 2, 3) add up to 6 ($1 + 2 + 3 = 6$)

Input: 6

Output: Perfect

Input: 10

Output: Not Perfect

3 Convert uppercase to lowercase and lowercase to uppercase using a while loop.

Input: "HeLLo"

Output: "hElLO"

Input: "JAVA"

Output: "java"

4 Print pattern for n lines

1

0 1

1 0 1

0 1 0 1

5 Hourglass Star Pattern

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6 Zig-Zag Star Pattern

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Input: columns = 9

Hint : modulus logic + row control